

REMARKS

Claims 1-18 are pending in this application. Non-elected claim 17 is withdrawn from consideration by the Examiner. By this Amendment, claims 1-8, 11, 13, 14, 16 and 17 are amended, and claim 18 is added. Support for the amendments to claims 1-8, 11, 13, 14, 16 and 17, and new claim 18, can be found, for example, at paragraphs [0007]-[0009], [0022]-[0025], and Figs. 2 and 3 of the originally filed specification. No new matter is added.

I. Restriction Requirement

The Office Action maintains the Restriction Requirement among Group I, claims 1-16, and Group II, claim 17. Applicants respectfully traverse the Restriction Requirement, because, as discussed below, Groups I and II contain a special technical feature that defines a contribution over the art. Accordingly, reconsideration and withdrawal of the Restriction Requirement are respectfully requested.

II. Drawings

The Office Action objects to the drawings, because of the description "172" on page 13, line 20, of the specification. However, "172" refers to number of slots, rather than a specific item in the drawings. Similar numbers of slots are recited in paragraph [0017], such as "11th to 167th," and "168th to 172nd." Thus, reconsideration and withdrawal of the objection are respectfully requested.

III. Specification

The Office Action requires a new Abstract on a separate sheet. A new Abstract is attached to this Amendment. Accordingly, reconsideration is respectfully requested.

IV. Claim Rejection Under 35 U.S.C. §112

The Office Action rejects claims 1-16 under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants respectfully traverse the rejection. However, in order to expedite prosecution, by this Amendment, claims 1-8, 11, 13, 14 and 16 are amended to more clearly

recite the claimed invention. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

V. Claim Rejection Under 35 U.S.C. §103

The Office Action rejects claims 1-16 under 35 U.S.C. §103(a) as being unpatentable over Kim et al. (U.S. Patent Application Publication No. 2003/0232514) ("Kim") in view of Hatano et al. (U.S. Patent No. 5,963,834) ("Hatano"). Applicants respectfully traverse the rejection.

By this Amendment, claim 1 recites "performing, after the processed substrate is unloaded from the reaction furnace and before another substrate is loaded into the reaction furnace, a 2nd purge by evacuating the inside of the reaction furnace, supplying an inert gas into the reaction furnace one or more times, wherein amount of change in the pressure in the reaction furnace in the 2nd purge step is larger than amount of change in the pressure in the reaction furnace in the 1st purge step." Kim and Hatano, alone or in combination, do not teach or suggest at least these claim features, and one of ordinary skill in the art would have had no reason or rationale to have developed a method of manufacturing a semiconductor device comprising the claimed method steps with Kim and Hatano.

The Office Action acknowledges that Kim does not disclose "performing, after the processed substrate is unloaded from the reaction furnace and before another substrate is loaded into the reaction furnace, a 2nd purge," as claimed. See Office Action at page 6, lines 4-5. Moreover, the Office Action acknowledges that neither Kim nor Hatano disclose "wherein amount of change in the pressure in the reaction furnace in the 2nd purge step is larger than amount of change in the pressure in the reaction furnace in the 1st purge step," as claimed. See Office Action at page 6, lines 10-13. However, the Office Action submits that the purging pressures, purging times, amount of time the furnace is purged, and the relative values can be obtained by routine experimentation. Applicants respectfully disagree.

Neither Kim nor Hatano provide any reason or rationale for one of ordinary skill in the art to have performed alleged "routine experimentation" in order to develop the claimed method of manufacture. Rather, the Office Action merely states that the conditions are general to the art. However, the conditions are not general to the art, because neither reference provides any data at least regarding "amount of change in the pressure in the reaction furnace in the 2nd purge step is larger than amount of change in the pressure in the reaction furnace in the 1st purge step," as claimed. Consequently, the experimentation provided in the present specification could not have been "routine" and, thus, claim 1 would not have been rendered obvious in view of the references.

As Kim and Hatano fail to teach or suggest each and every feature of claim 1, and one of ordinary skill in the art would have had no reason or rationale to have developed the method of claim 1, claim 1 would not have been rendered obvious by Kim and Hatano. Claims 2-11 depend from claim 1 and, thus, also would not have been rendered obvious by Kim and Hatano.

By this Amendment, claims 13 and 18 recite, "wherein in the purging step, the evacuation of the inside of the reaction furnace is performed under a state that an exhaust valve, which is provided in an exhaust line for exhausting the inside of the reaction furnace, is open, and the supply of the inert gas into the reaction furnace is performed under a state that the exhaust valve is closed."

Neither Kim nor Hatano, alone or in combination, teach or suggest at least these claims features, and one of ordinary skill in the art would have had no reason or rationale to have developed the method of claims 13 and 18 with Kim and Hatano. Thus, claims 13 and 18 would not have been rendered obvious by Kim and Hatano. Claims 14 and 16 depend from claim 13 and, thus, also would not have been rendered obvious by Kim and Hatano.

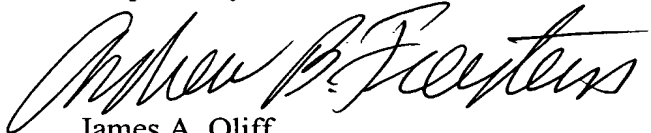
Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

VI. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Abstract
Petition for Extension of Time

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